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The Baltimore oriole mutilating flowers.

The interesting note of J. Schneck in regard to the oriole piercing the flowers of the trumpet-vine for the nectar reminds me of a note which I sent the *American Naturalist*, and printed in 1869, on p. 380. In that case the Missouri currant (*Ribes aureum*) was the plant. The fact of their piercing large numbers of flowers for at least two seasons in the village of Union Springs, Cayuga county, was well established. Honey bees gleaned freely of the honey through these holes, as the corolla is too long for them to reach it through the tube.—W. J. BEAL, *Agricultural College, Michigan*.

Misconceptions of botanical homologies.

I had occasion in the June number of the GAZETTE, last year, to call attention, on pp. 178, 179, to the vicious confusion in the terminology of the spermaphytic flower. Two melancholy examples of this confusion have just come to my notice and I cannot forbear referring to them. One is on pp. 162, 163 of Warming's *Haandbog i den systematiske Botanik* (German translation), where under the bold headline *Die ungeschlechtliche Generation der Kormophyten* occurs considerable talk about "eingeschlechtig," "zweigeschlechtig" and "hermaphrodite" flowers, thus affording an exquisite illustration of how easy it is to classify black, blue and green under the generic head of pale yellow.

The other example is sadder, for it is the cause of a serious blunder. It is in Geddes and Thompson's "Significance of Sex," a very suggestive and admirable work, after reading which one can not but regret that it apparently did not occur to the authors to give particular attention to botany as one of the biological sciences. But this is an ordinary oversight. On p. 48, where the discussion of nutrition as influencing sex is going on, we have a couple of tolerable pictures of the diclinous, asexual, pollinar and ovular plants of *Lychnis diurna* figuring as the "male and female flowers;" and, basing their remarks upon such a failure to comprehend plant homologies, the authors observe that "the botanical evidence, though by no means very strong, certainly corroborates the general result that good nourishment produces a preponderance of females." It is just here that Geddes and Thompson, misled by the false terminology which botanists, to their discredit, still suffer to continue, lose the opportunity of making a strong point along their line of research.

Let us see what the condition really is in plants of the type of *Lychnis*. The pollen grain or microspore produces a one or two-celled male plant—the pollen-tube: the megaspore or embryo-sac produces a seven-celled female plant. What was the origin of the two sizes of spores? In short this: spore-mother-cells in certain sporangia divided internally into four spore-cells, each of which developed to maturity and was a pollen-spore. In other sporangia the spore-mother-cell formed four nuclei and the potentially four-spored contents produced only one spore—the embryo-sac—because one of the cell-nuclei reabsorbed the others, and one cell united to itself the three sister cells. Where could there be found a more instructive example of high spore-nutrition tending to develop a female plant? It is superb. One might challenge the zoölogist to bring forward any evidence

clearer than this. In fact it is in the plant world that we must look for much of our testimony along the more difficult lines of biological science. And it is the duty of botanists to clear up the confusion of their terminology, especially along those lines which are subject to so great popular misapprehension. It should not be possible, even for the casual reader of botany, to encounter such contradiction and error as clusters about the spermaphytic plants, imbedded in a misleading terminology.—CONWAY MACMILLAN, *University of Minnesota, Minneapolis.*

NOTES AND NEWS.

THE VENERABLE curator of the botanical museum at Berlin, Friedrich Karl Dietrich, is dead at the age of 85.

DURING THE year 1890 42,646 specimens were added to the Herbarium of the British Museum, according to the report just published.

MR. A. S. HITCHCOCK, of the Missouri Botanical Garden, has been appointed Professor of Botany in the Agricultural College of Kansas at Manhattan.

MR. P. H. ROLFS, recently connected with the Iowa Agricultural College, at Ames, has been appointed botanist and entomologist of the Florida Agricultural Experiment Station at Lake City, Fla.

MR. WILLIAM WEST has a paper in the December number of the *Journal of Botany* on the freshwater Algae of Maine, in which three new species and several new varieties are described. There are also notes on other species of the collection.

DR. FR. ORTLOFF of Coburg (Thuringia) Germany, has just issued a series of photographic reproductions of the stem-leaves of *Sphagnum* which are of so much diagnostic importance in the discrimination of the polymorphic species of this genus. The series contains 63 plates.

PROF. L. H. BAILEY has been appointed special agent of the United States Weather Bureau to make a report upon phenology, and desires reference to all records upon the relation of climate to the times of blooming, fruiting, leafing, etc., of plants. He may be addressed at Ithaca, N. Y.

PROF. R. E. CALL has given an account of the silicified woods of E. Arkansas in the *American Journal of Science* (Nov. 1891), in which he concludes that they are all Tertiary (Eocene), are silicified lignite, and are as yet of no taxonomic value in determining relative ages in the Tertiary series.

THE MOSS herbarium of the late Dr. S. O. Lindberg has been acquired by the University of Helsingfors. Exclusive of duplicates and of numerous exsiccati the collection contains 5,046 species represented